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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,795	03/19/2004	Mark S. Isenberger	110348-135996	8881

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EXAMINER

VU, HUNG K

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EK

Office Action Summary	Application No.	Applicant(s)	
	10/804,795	ISENBERGER ET AL.	
	Examiner	Art Unit	
	Hung Vu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 13-25 and 29-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12 and 26-28 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention of Group I, Claims 1-12 and 26-28, in the reply filed on 01/24/05 is acknowledged. The traversal is on the ground(s) that new claims 26 to 31 add additional features to independent claims 1 and 21 that particularizes the apparatus and system of claims 26 and 31 to memory circuits so that the combination requires the particulars of the subcombination. This is not found persuasive because the combination does not require the particulars of the subcombination since it can be used for other system, such as the RC filter network.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-25 and 29-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 01/24/05.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3, 5-7, 9-12, 26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda et al. (PN 6,150,183).

Fukuda et al. discloses, as shown in Figure 16, an integrated circuit, comprising:

- a first electrode (39,38) formed on a support surface (7), the first electrode having a first electrode surface the intersects the support surface;

- a spacer (35) positioned on the support surface adjacent to the first electrode surface;

- a ferroelectric layer (40) formed on the first electrode and the spacer.

Regarding claim 2, Fukuda et al. discloses the circuit further comprises a second electrode (37) formed on the ferroelectric layer opposite of the first electrode.

Regarding claim 3, Fukuda et al. discloses the spacer comprises of an insulation material.

Regarding claim 5, Fukuda et al. discloses the support surface comprises of insulation material.

Regarding claim 6, Fukuda et al. discloses a portion of the spacer nearest to the first electrode surface has a height about equal to a height of the first electrode, the height of the first electrode being a distance between the support surface and a second electrode surface of the first electrode, the second electrode surface being substantially parallel to the support surface.

Regarding claim 7, Fukuda et al. discloses the spacer is in contact with the first electrode surface.

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Regarding claim 9, Fukuda et al. discloses the support surface is located on a die (1).

Regarding claim 10, Fukuda et al. discloses the spacer is formed for a selected one of moving a transition point away from the first electrode, and reducing sharpness of a transition.

Regarding claim 11, Fukuda et al. discloses the first electrode (38,39) comprises first and second portions, the first portion (38) comprising a first material that is non-reactive to the ferroelectric layer and located at a second electrode surface of the first electrode, the second electrode surface being parallel to the support surface, and the second portion (39) comprising a second material that is more conductive than the first material and located between the first portion and the support surface.

Regarding claim 12, Fukuda et al. discloses the spacer is formed against the first electrode surface such that the spacer isolates the second portion from the ferroelectric layer.

Regarding claim 26, Fukuda et al. discloses the integrated circuit is a memory circuit.

Regarding claim 28, Fukuda et al. discloses the second electrode adaptedly formed on the ferroelectric layer opposite of the first electrode to form a memory cell.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (PN 6,150,183).

Regarding claim 4, Fukuda et al. discloses the claimed invention including the integrated circuit as explained in the rejection above. Fukuda et al. does not disclose the material of the ferroelectric layer. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the device of Fukuda et al. having the materials as that claimed by Applicant, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 27, Fukuda et al. discloses the claimed invention including the integrated circuit as explained in the rejection above. Fukuda et al. further discloses the integrated circuit is a memory circuit. Fukuda et al. does not disclose the memory circuit is a non-volatile memory circuit. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the memory circuit of Fukuda et al. as the non-volatile since claim directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a

device is, not what a device does ."(emphasis in original) *Hewlett - Packard Co . v. Bausch & Lomb Inc .*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Allowable Subject Matter

5. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is an examiner's statement of reasons for allowance:

Applicant's claim 8 is allowable over the references of record because none of these references disclose or can be combined to yield the claimed circuit comprising the spacer which is separated from the first electrode surface.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

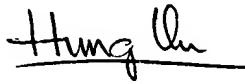
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

March 18, 2005

A handwritten signature in black ink, appearing to read "Hung Vu", written over a horizontal line.

Hung Vu

Primary Examiner